

U.S. Application Serial No. 09/602,727

IN THE CLAIMS:

While no amendments are being presently made to the claims, for the convenience of the Examiner the complete set of claims as believed to be presently pending is reproduced below.

1. (previously presented) A method for receiving a radio communication in a radio communication system, the method comprising:
among a plurality of mobile stations, selectively assigning one mobile station of the plurality of mobile stations, each of which is capable of receiving radio communications directly from a remote radio, as a first mobile station for receiving radio communications from the remote radio intended for one or more of the plurality of mobile stations;
receiving the radio communication from the remote radio at the first mobile station of the plurality of mobile stations; and
transmitting a local radio communication from the first mobile station to an intended recipient mobile station of the plurality of mobile stations.
2. (original) The method of claim 1 wherein selectively assigning comprises:
among the plurality of mobile stations, identifying a mobile station having particular battery characteristics; and
assigning the mobile station as the first mobile station for receiving radio communications.
3. (previously presented) The method of claim 1 wherein selectively assigning comprises:
among the plurality of mobile stations, sequentially assigning one mobile station of the plurality of mobile stations as the first mobile station.
4. (original) The method of claim 1 wherein selectively assigning comprises:

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among the plurality of mobile stations, assigning the first mobile station to receive the radio communication.

5. (original) The method of claim 1 wherein selectively assigning comprises: assigning the first mobile station to receive radio communications during a predetermined time period.

6. (original) The method of claim 1 wherein selectively assigning comprises: assigning the first mobile station to receive radio communications; and subsequently, de-assigning the first mobile station and assigning another mobile station of the plurality of mobile stations to receive radio communications.

7. (original) The method of claim 1 wherein selectively assigning comprises: among the plurality of mobile stations, identifying a mobile station having best radio reception characteristics; and assigning the identified mobile station as the first mobile station.

8. (previously presented) The method of claim 1 further comprising: decoding data in the radio communication; identifying an intended recipient in the data; and when the intended recipient corresponds to a mobile station of the plurality of mobile stations, transmitting the local radio communication from the first mobile station to the intended recipient mobile station.

9. (previously presented) The method of claim 8 further comprising: when the intended recipient does not correspond to a mobile station of the plurality of mobile stations, discarding the radio communication.

10. (original) The method of claim 1 further comprising:

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transmitting from one mobile station of the plurality of mobile stations to a remote radio of the radio communication system identification information for each mobile station of the plurality of mobile stations.

11. (original) The method of claim 10 further comprising:
transmitting radio communications intended for any mobile station of the plurality of mobile stations during a common predefined time period.

12. (original) The method of claim 1 further comprising:
receiving the radio communication in accordance with a first radio communication protocol; and
transmitting the local radio communication in accordance with a second radio communication protocol.

13. (original) The method of claim 12 further comprising:
transmitting the local radio communication at a relatively low transmit power for local reception by the plurality of mobile stations.

14. (previously presented) A mobile station operable in a radio communication system, the mobile station comprising:
a first radio circuit;
a local radio circuit; and
a control circuit operable in conjunction with the first radio circuit to decode a radio communication from a remote radio and operable in conjunction with the local radio circuit to transmit to an intended recipient from one or more of a plurality of mobile stations, located locally relative to the mobile station, a local radio communication in response to the radio communication, when selectively assigned to receive radio communications from the remote radio for the one or more of the plurality of mobile stations, each of which is capable of receiving radio communications directly from the remote radio.

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15. (original) The mobile station of claim 14 wherein the control circuit is further operable to identify an intended recipient of the radio communication and transmit the local radio communication to an associated mobile station when the intended recipient is the associated mobile station.

16. (original) The mobile station of claim 14 wherein the first radio circuit comprises:
a receiver operable on a cellular radio communication system; and
a transmitter operable on the cellular radio communication system.

17. (original) The mobile station of claim 16 wherein the local radio circuit comprises:

a local receiver operable in a short range radio communication system including at least the associated mobile station; and
a local transmitter operable in the short range radio communication system.

18. (previously presented) A portable electronic device comprising:
receiving means for receiving downlink radio transmissions from a remote radio, when selectively assigned to receive radio communications for one or more of a plurality of portable electronic devices; and

local transmitting means for radio communication of data to an associated portable electronic device from the one or more of a plurality of portable electronic devices, each of which is capable of receiving radio communications directly from the remote radio, in response to the downlink radio transmissions.

19. (original) The portable electronic device of claim 18 further comprising:
decoding means for decoding the downlink radio transmission in conjunction with the receiving means.

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20. (original) The portable electronic device of claim 19 further comprising:
control means for determining an intended recipient of the downlink radio
transmission.

21. (previously presented) A method for operating a mobile radio communication
station, the method comprising:
receiving a downlink radio transmission from a remote radio;
determining an intended recipient of the downlink radio transmission; and
when the intended recipient corresponds to an associated mobile station, which is
located locally relative to the mobile radio communication station receiving the
downlink radio transmission, and which has selectively disabled direct
communication with the remote radio, transmitting information about the
downlink radio transmission to the associated mobile station on a low power
local radio link.

22. (original) The method of claim 21 further comprising:
using the low power radio link, coordinating reception of subsequent downlink radio
transmissions among a plurality of mobile radio communication stations
including at least the associated mobile station.

23. (original) The method of claim 22 wherein coordinating reception comprises:
assigning a respective reception interval to each mobile radio communication station
of the plurality of mobile radio communication stations.

24. (original) The method of claim 22 wherein coordinating reception comprises:
dedicating one mobile radio communication station of the plurality of mobile radio
communication stations to reception of subsequent downlink radio
transmissions based on a reception parameter.

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25. (original) The method of claim 24 wherein dedicating comprises:
determining received signal strength for at least one downlink radio communication;
comparing respective received signal strengths for each mobile radio communication
station of the plurality of mobile radio communication stations; and
dedicating as the one mobile radio communication the mobile radio communication
having best respective received signal strength.

26. (previously presented) A radio communication method comprising:
cooperating among a plurality of locally positioned mobile stations, each capable of
directly receiving downlink radio transmissions from a remote base station in a
radio communication system, to assign one mobile station of the plurality of
locally positioned mobile stations to receive downlink radio transmissions
from the remote base station;
at the one mobile station,
receiving a downlink radio communication at the one mobile station in
accordance with a first radio communication protocol of the radio
communication system,
decoding the downlink radio communication to identify an intended recipient
of the downlink radio communication, and
when the intended recipient is another station of the plurality of locally
positioned mobile stations, transmitting information about the downlink
radio communication to the other mobile station using a low-power
local radio communication protocol.

27. (original) The radio communication method of claim 26 wherein transmitting
information comprises transmitting data in accordance with the Bluetooth radio
communication protocol.

28. (previously presented) A radio communication method comprising:

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defining a local group of mobile stations in direct radio communication with one or more remote radios of a radio communication system;
within the local group, assigning a first mobile station for receiving downlink transmissions from the one or more remote radios;
subsequently, receiving the downlink transmissions;
identifying in the downlink transmissions data intended for one or more members of the local group; and
communicating the data from the first mobile station to the one or more members over a local radio communication system.

29. (previously presented) A method comprising:
wirelessly communicating among a local group of electronic devices within local communication range of the other electronic devices within the local group and within direct radio communication range of a remote radio;
receiving at an assigned electronic device a radio transmission from the remote radio;
at the assigned electronic device, determining one or more intended recipients of the radio transmission;
when the one or more intended recipients corresponds to a member of the local group other than the assigned electronic device, wirelessly communicating to the member information about the radio transmission.

30. (previously presented) The method of claim 29 wherein wirelessly communicating comprises:

transmitting data from a first member of the local group intended for one or more other members of the local group; and
receiving the data at at least some of the one or more other members of the group.

31. (previously presented) The method of claim 29 further comprising:

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assigning the assigned electronic device for receiving radio transmissions from the remote radio for all members of the local group.

32. (original) The method of claim 31 wherein assigning comprises:
designating one electronic device of the local group as the assigned electronic device based on a performance characteristic for at least some of the members of the local group.

33. (previously presented) The method of claim 32 further comprising:
measuring a reception characteristic at at least some members of the group;
wirelessly communicating information about measured reception characteristics to other members of the group; and
designating the one electronic device as the assigned electronic device based on the measured reception characteristics.

34. (previously presented) The method of claim 31 further comprising:
de-assigning the assigned electronic device; and
assigning a next assigned electronic device for receiving the radio transmissions from the remote radio for all members of the local group.

35. (previously presented) The method of claim 31 further comprising:
distributing assignment for receiving radio transmissions from the remote radio for all members of the local group among all members of the local group.

36. (previously presented) The method of claim 29 further comprising:
distributing assignment for receiving radio transmissions from the remote radio among members of the local group.

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37. (original) The method of claim 29 wherein receiving a receiving a radio transmission comprises:

detecting a downlink transmission from a remote radio;
decoding the downlink transmission to extract data embedded in the downlink transmission; and
identifying the one or more intended recipients in response to the data.

38. (original) The method of claim 29 wherein wirelessly communicating comprises:
transmitting information from a first electronic device according to a predefined wireless data communication protocol; and
receiving the information at at least a second electronic device.

39. (original) The method of claim 38 wherein the predefined wireless protocol comprises the Bluetooth standard.

40. (previously presented) The method of claim 28 wherein the transmission range of the radio communications with the remote radios is greater than ten kilometer and the transmission range of the radio communications over the local radio communication system is less than 100 meters.

41. (previously presented) A method for receiving a radio communication in a radio communication system, the method comprising:

among a plurality of mobile stations, selectively assigning one mobile station of the plurality of mobile stations as a first mobile station for receiving radio communications from the remote radio;

not energizing at least some of the circuitry needed for receiving direct radio communications from the remote radio in at least one or more of the plurality of mobile stations which are not assigned, while radio communications from the remote radio are being transmitted;

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receiving the radio communication from the remote radio at the first mobile station of the plurality of mobile stations; and
transmitting a local radio communication from the first mobile station to an intended recipient mobile station of the plurality of mobile stations.

42. (previously presented) The method of claim 41 wherein the circuitry not energized includes one or more of analog front end circuitry, decoders, and controllers.